

CLAIM LISTING

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1. (Cancelled)

2. (Currently amended) The hearing aid system of Claim ~~1~~-23 wherein the transducer is located at a distal end of the case, which distal end is positioned under the skin of the ear canal.

3. (Currently amended) The hearing aid system of Claim ~~1~~-23 wherein the transducer is located at a distal end of the case, which distal end protrudes slightly into the ear canal.

4. (Currently amended) The hearing aid system of Claim ~~1~~-23 wherein the implanted power source comprises a rechargeable battery.

5. (Currently amended) The hearing aid system of Claim ~~1~~-23 wherein the implanted power source comprises a super capacitor.

6. (Currently amended) The hearing aid system of Claim ~~1~~-23 wherein the implant case comprises one piece.

7. (Currently amended) The hearing aid system of Claim ~~1~~-23 wherein the implant case comprises more than one piece.

8. (Currently amended) The hearing aid system of Claim ~~1~~-23 wherein at least one microphone of the microphone module is located remotely from the microphone module.

9. (Currently amended) The hearing aid of Claim ~~1~~-23 wherein at least one external antenna of the microphone module is located remotely from the microphone module.

1 10. (Currently amended) The hearing aid system of Claim 4-23 further comprising a
2 coating on at least part of the implant case, which coating comprises at least one material for
3 at least one of promoting healing, resisting infection, resisting inflammation, and facilitating
4 integration of the implant with body tissue.

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6 11. (Currently amended) The hearing aid system of Claim 4-23 further comprising
7 signal processing circuitry for processing sensed signals and presenting processed signals
8 that are compatible with sounds traveling naturally through the ear canal.

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10 12. (Currently amended) The hearing aid system of Claim 4-23 further comprising
11 signal processing circuitry that performs voice command recognition.

12 13. (Currently amended) The hearing aid system of Claim 4-23 further including
13 means for communicating with a commercial electronics device.

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15 14. (Currently amended) The hearing aid system of Claim 13 wherein the means for
16 communicating includes a telemetry communication technique.

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18 15. (Currently amended) The hearing aid system of Claim 13 wherein the means for
19 communicating includes a direct electrical connection.

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21 16. (Currently amended) The hearing aid system of Claim 4-23 further comprising:
22 at least one external programming unit for customizing the hearing aid for a
23 user; and
24 means for communicating with the at least one external programming unit.

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26 17. (Currently amended) The hearing aid system of Claim 16 wherein the at least
27 one external programming unit is a remote control.

1 18. (Currently amended) The hearing aid system of Claim 17 wherein the
2 microphone module includes the remote control.

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4 19. (Cancelled)

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6 20. (Currently amended) A hearing aid system including:
7 a case, having a proximal end and a distal end, configured for implantation in a
8 patient's body with said case proximal end subcutaneously implanted proximate to a patient's
9 retro-auricular space and said case distal end implanted proximate to said patient's outer ear
10 canal;

11 microphone means remote from said case for generating an output signal
12 representative of audible sound;

13 signal processing circuitry in said case responsive to said microphone output
14 signal for producing an electric drive signal; and

15 a an acoustic transducer in said case proximate to said distal end responsive to
16 said electric drive signal for projecting an acoustic output signal into said patient's outer ear
17 canal.

18 21. (Original) The system of claim 20 wherein said microphone means for
19 generating said output signal comprises a housing external to said patient's body, said
20 housing including a microphone.

21 22. (Original) The system of claim 21 including wireless telemetry means for
22 coupling said microphone output signal to said signal processing circuitry.

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1 23. (New) A hearing aid system comprising:
2 an implant configured for insertion into a recess under the skin of a patient's
3 retro-auricular space; for projecting acoustic energy into said patient's outer ear canal without
4 occluding said ear canal, said implant comprising:
5 a case having a proximal end and a distal end,
6 an acoustic transducer mounted in said case proximate to said distal end
7 for producing acoustic energy;
8 implant electronic circuitry in said case having an output for driving said
9 acoustic transducer;
10 an implant antenna electrically connected to an input of said electronic
11 circuitry; and
12 a power source electrically connected to said electronic circuitry;
13 a microphone module configured for use external to said case, said module
14 comprising:
15 a housing;
16 external electronics within said housing;
17 at least one microphone electrically connected to an input of said
18 external electronics;
19 at least one external antenna electrically connected to an output of said
20 external electronics;
21 a power source electrically connected to said external electronics; and
22 at least one telemetry link between said external antenna and said implant
23 antenna, and wherein audible sound received by said microphone is processed by said
24 external electronics and transmitted by said telemetry link to said implant electronic circuitry
25 for causing said transducer to project acoustic energy into said patient's outer ear canal.

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24. (New) A hearing aid system comprising:

an implant configured for insertion into a recess under the skin of a patient's retro-auricular space for projecting acoustic energy into said patient's outer ear canal without occluding said ear canal, said implant comprising:

a case having a proximal end and a distal end,
acoustic transducer means mounted in said case proximate to said distal end for producing acoustic energy;

implant circuit means in said case for supplying a drive signal to said acoustic transducer means;

a microphone module external to said case, said module comprising:

a housing;

microphone means in said housing for converting sound energy to a representative electric signal; and

means for wirelessly communicating said representative electric signal to said implant circuit means for driving said acoustic transducer to project acoustic energy into said patient's outer ear canal.

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